

隐子蕨属 (水龙骨科) 植物在中国的首次承认

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摘要: 首次承认水龙骨科 (Polypodiaceae) 隐子蕨属 (*Crypsinus*) 植物在中国的分布。文中列出了该属与假瘤蕨属 (*Phymatopteris*) 和修蕨属 (*Selliguea*) 的区别特征, 给出隐子蕨属植物在中国的唯一一种——三指隐子蕨 (*Crypsinus trilobus*) 的文献引证, 特征描述并附图。

关键词: 隐子蕨属; 三指隐子蕨; 水龙骨科; 中国

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First Recognition of the Genus *Crypsinus* (Polypodiaceae) in China^{*}

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Abstract: The genus *Crypsinus* (Polypodiaceae) is reported for the first time in China. The differences among *Crypsinus*, *Phymatopteris* and *Selliguea* are presented, and the sole species *Crypsinus trilobus* is described and illustrated.

Key words: *Crypsinus*; *Crypsinus trilobus*; Polypodiaceae; China

The genus *Crypsinus* (Polypodiaceae) was established by C. Presl with the type species *Crypsinus nummularius* C. Presl (nom. superfl. *Polypodium pyrrolifolium* Goldm.) (Presl, 1851). This genus is characterized by the simplified dimorphic or subdimorphic fronds with indistinct lateral veins, and the immersed sori on the midrib of contracted linear fertile lamina or on the contracted upper part of subfertile lamina, and goniophleboid type venation. *Crypsinus* differs from *Phymatopteris* Pichi-Serm. in having dimorphic fronds, and is distinguished from *Selliguea* Bory by the separated sori.

Crypsinus was confused with *Microterus* C. Presl and *Phymatopsis* J. Sm. by Copeland (1947) and was included among 40 species previously belonging to *Phymatopsis*. Holttum (1954) separated *Microsorum*

Link (*Microterus* C. Presl) from *Crypsinus* in his Ferns of Malaya, but the latter also included many species of *Phymatopsis*. Ching (1964) rejected the classification of Copeland and Holttum, and treated *Crypsinus* as including only six species from Malaysia, and none from China. Pichi Sermolli (1973) emended the spelling of *Phymatopsis* to *Phymatopteris* Pichi-Serm. (the former is a later homonym), adding no new species to it at that time. In 1977, Pichi Sermolli (1977) accepted Ching's circumscription of *Crypsinus* with only a few species. Hovenkamp (1998) transferred *Crypsinus* to *Selliguea*, moreover adding six additional genera of Polypodiaceae to *Selliguea*. Lu (2000), in Flora Reipublicae Popularis Sinicae, followed Ching's system and excluded *Crypsinus* from China. In Flora Yunnanica, Cheng (2005) was of the opinion that the main

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characteristics of *Phymatopteris* coincided with those of *Crypsinus* and used the name *Crypsinus* rather than *Phymatopteris*. In 2006, Smith transferred *Crypsinus*, excluding *Phymatopteris*, to *Selliguea* (Smith, 2006).

Ching (1941; 1964) believed that *Phymatopsis* included more than 60 species from mainland Asia, most of them from China and adjacent countries, and that no species of *Crypsinus* occurred in China. A comparison of *Crypsinus*, *Phymatopteris* and *Selliguea* is presented in Table 1.

From the evidence presented above, it is obvious that *Crypsinus* should not be confused with *Phymatopteris*.

While investigating specimens of *Phymatopteris* in PYU and PE, we discovered a species collected on Hainan, *P. triloba* (Houtt.) Pichi-Serm., which, according to the differences noted in Table 1, should be treated as a species of *Crypsinus* as follows.

Crypsinus C. Presl, Epim. Bot. 123. 1851.

Type species: *Crypsinus nummularius* C. Presl (nom. superfl.). *Polypodium pyrolifolium* Goldm.

Crypsinus contains 6 species, distributed in China (Hainan); Malaysia, Indonesia and the Philippines.

Crypsinus trilobus (Houtt.) Copel. Gen. Fil. 206. 1947. 三指隐子蕨 (新拟) Fig. 1

Polypodium trilobum Houtt., Hist. Nat. 14: 148. t. 98. f. 1. 1783.

Phymatodes triloba (Houtt.) Ching in Bull. Fan Mem. Inst. Biol. Bot. Ser. 10: 239. 1941.

Phymatopsis triloba (Houtt.) Ching in Acta Phy-

totax. Sin. 9 (2): 194. 1964.

Phymatopteris triloba (Houtt.) Pichi-Serm. in Webbia 28 (2): 465. 1973.

Selliguea triloba (Houtt.) M. G. Price in Blumea 43 (1): 57. f. 22. 1998.

Polypodium triphyllum Jacq. Coll. 2: 284, t. 22, f. 1. 1788.

Phymatodes triphylla (Jacq.) C. Chr. et Tard. - Blot, Fl. Indo-Chine 7 (2): 470. f. 55. 4-5. 1941.

Polypodium incurvatum Blume, Enum. Pl. Javae 126. t. 65. 1828.

Phymatopsis incurvata (Blume) J. Sm., Hist. Fil., 105. 1875.

Pleopeltis incurvata (Blume) Bedd., Handb. Ferns Brit. India 364. f. 206. 1883.

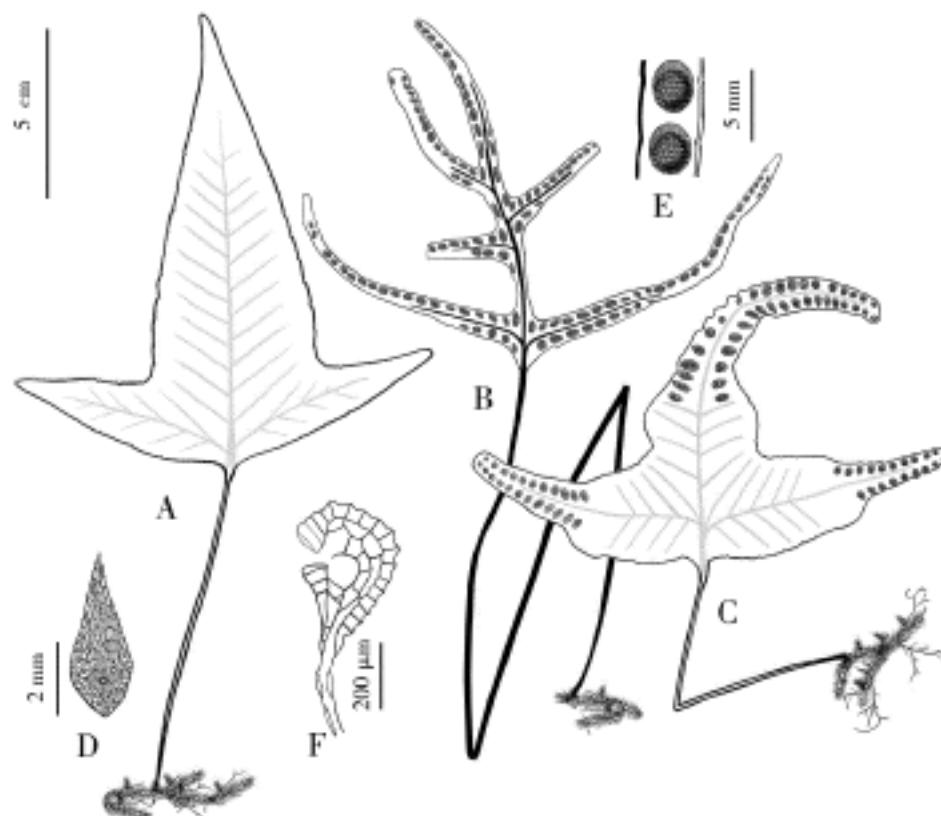
Selliguea matutumensis Copel., Philipp. J. Sci. 81: 44. 1952.

Rhizome creeping, elongate, 3-5 mm in diam., densely scaly throughout; scales ovate-lanceolate, central portion castaneous, paler brown towards margin, base rounded, peltate, margin entire at or somewhat ciliolate, apex acuminate; scales at base of stipes similar but acuminate. Fronds 1-3 cm apart, dimorphic. Sterile fronds: stipe 15-20 cm long, lamina trilobed or pinnatifid, apical lobe somewhat larger than the lateral lobes; lobes usually 4-6 cm wide at base, shortly acuminate, with conspicuous main veins and indistinct lateral veins, venation type goniophlebioid, margins thickened, with distinct small incision. Fertile fronds:

Table 1 Comparison among *Crypsinus*, *Phymatopteris* and *Selliguea*

	<i>Crypsinus</i>	<i>Phymatopteris</i>	<i>Selliguea</i>
Chromosome number *	$x = 11$ (33)	$x = 12$ (36)	$x = 37$
Lamina			
Morphology	simple dimorphic or subdimorphic	simple, trifid, palmatifid, pinnatifid or pinnate, monomorphic or dimorphic	monomorphic or subdimorphic
Texture	rigidly coriaceous, glossy	chartaceous	coriaceous
Lateral veins	indistinct	distinct	distinct
Venation pattern	goniophlebioid type	drynarioid type	goniophlebioid type
Sori			
Shape	round or elliptic, immersed	round, superficial or slightly immersed	linear, superficial
Distribution	on midrib of contracted upper part of partially fertile lamina or on linear fertile lamina	on midrib of fertile lamina	on midrib of two lateral veins
Distribution	China (Hainan), Malaysia, Indonesia (Java, Sumatra, Borneo)	China and adjacent countries (most species), Malaysia (a few species)	Indonesia (Java), Asia (tropic area), the Pacific islands, Australia, South Africa, China (Guangdong)

* Chromosome numbers are from Lye *et al.* (1977).

Fig. 1 *Crypsinus trilobus* (Houtt.) Copel.

A . Sterile frond; B . Linear fertile frond; C . Subfertile frond; D . Rhizome-scale; E . Sori; F . Sporangium

stipe 20 - 40 cm long, lamina trilobed or pinnatifid with 2 - 4 (- 6) pairs of lateral lobes; rachis with narrowly winged or lower part wingless; lobes contracted, linear, less than 1 cm wide, apex acuminate, coriaceous. Sori in one row on both sides of midrib of contracted linear fertile lamina or on the contracted upper part of subfertile lamina, deeply embedded, nearly round or somewhat elliptic, 2 - 5 mm in diam., prominent on the upper surface.

Additional specimens examined. Hainan (海南). Wuzhi Shan (五指山). alt. 1300 m. W. M. Chu (朱维明) 01062817 - 01062822, PYU; Hainan. Yi Jiang (易江). alt. 1200 - 1300 m. X. C. Zhang (张宪春) 01235992, PE; Hainan. Diaoluo Shan (吊罗山). alt. 1020 m. S. Y. Dong (董仕勇) 01235994; alt. 900 m. Hainan Group (海南队), 01235989, PE; Hainan. Bawangling (霸王岭). alt. 1300 m. S. Y. Dong (董仕勇) 01235995, PE.

Distribution. China (Hainan: Wuzhi Shan; Diaoluo Shan; Bawangling. Yi Jiang); Indonesia (Java, Sumatra, Borneo), Malaysia, Philippines.

Ecology. On rocks and tree trunks.

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